

CLAIMS

What is claimed is:

Sub Obj

1. A medical diagnostic ultrasound catheter for imaging from within a body, the catheter comprising:
5 a conductor;
a shaft surrounding at least a portion of the conductor;
a non-conductive braid connected with the shaft; and
an ultrasound transducer connected with the shaft and electrically
connected with the conductor.

10 2. The catheter of Claim 1 wherein the non-conductive braid
comprises a braid of mono-filament material.

15 3. The catheter of Claim 1 wherein the non-conductive braid
comprises mono-filament nylon material.

4. The catheter of Claim 1 wherein the non-conductive braid
comprises a material selected from the group consisting of: glass, plastic, nylon
and combinations thereof.

20 5. The catheter of Claim 1 wherein the non-conductive braid is
embedded within the shaft.

6. The catheter of Claim 1 wherein the shaft is free of electrically
conductive material.

25 7. The catheter of Claim 1 wherein the shaft comprises a tip portion
fused to a body portion, the non-conductive braid connected with the body portion.

8. The catheter of Claim 1 wherein the non-conductive braid
comprises a configuration selected from the group consisting of: spiral, diamond
weave and combinations thereof.

✓ 9. The catheter of Claim 1 further comprising a dielectric film adjacent an emitting surface of the ultrasound transducer.

✓ 10. A medical diagnostic catheter for use within a body, the catheter

Subj
comprising:

5 an electrical conductor;
a shaft surrounding at least a portion of the electrical conductor; and
a non-conductive insert for providing torque transmission connected with the shaft.

11. The catheter of Claim 10 wherein the non-conductive insert
10 comprises a braid of mono-filament material.

✓ 12. The catheter of Claim 10 wherein the non-conductive insert is
15 embedded within the shaft.

✓ 13. The catheter of Claim 10 wherein the shaft comprises a tip portion fused to a body portion, the non-conductive insert connected with the body portion.

✓ 14. The catheter of Claim 10 further comprising a dielectric film adjacent an emitting surface of a ultrasound transducer, the ultrasound transducer connected with the shaft and electrically connected with the conductor.

20 *Subj*
15. A medical diagnostic ultrasound catheter for imaging from within a body, the catheter comprising:

a shaft;
an ultrasound transducer connected with the shaft;
a lens adjacent the ultrasound transducer; and
a dielectric film adjacent the ultrasound transducer.

25 16. The catheter of Claim 15 wherein the dielectric film is positioned between the lens and the ultrasound transducer.

103 17. The catheter of Claim 15 wherein the dielectric film comprises a tape material.

103 18. The catheter of Claim 15 wherein the dielectric film comprises a polyester film.

103 19. The catheter of Claim 18 wherein the polyester film comprises Mylar.

103 20. The catheter of Claim 15 wherein the dielectric film comprises a film having a thickness less than 7 microns.

10 21. The catheter of Claim 15 wherein:
the shaft comprises a tip portion;
the ultrasound transducer connects with the tip portion; and
the dielectric film wraps around a circumference of the ultrasound transducer.

15 22. The catheter of Claim 15 wherein the dielectric film is positioned adjacent an emitting surface of the ultrasound transducer.

23. The catheter of Claim 15 further comprising a non-conductive braid connected with the shaft.

20 *Sub Body* 24. A medical diagnostic ultrasound catheter for imaging from within a body, the catheter comprising:
a shaft;
an ultrasound transducer connected within the shaft; and
a dielectric film positioned between a portion of the shaft and the ultrasound transducer.

25 25. The catheter of Claim 24 further comprising a lens adjacent the ultrasound transducer, wherein the dielectric film is positioned between the lens and the ultrasound transducer.

103 26. The catheter of Claim 24 wherein the dielectric film comprises a polyester film.

103 27. The catheter of Claim 24 wherein the dielectric film comprises a film having a thickness less than 7 microns.

5 28. The catheter of Claim 24 further comprising a non-conductive braid connected with the shaft.

10 *Sub A2* 29. A medical catheter for insertion into a body, the catheter comprising:
a shaft; and
a non-conductive braid connected with the shaft to transmit torque to the shaft.

15 103 30. The catheter of Claim 29 wherein the non-conductive braid comprises a braid of mono-filament material.

103 31. The catheter of Claim 29 wherein the non-conductive braid comprises mono-filament liquid crystal polymer material.

15 32. The catheter of Claim 29 wherein the non-conductive braid comprises a material selected from the group consisting of: glass, plastic, nylon and combinations thereof.

20 33. The catheter of Claim 29 wherein the non-conductive braid is embedded within the shaft.

10 *Sub A3* 34. The catheter of Claim 29 further comprising:
a conductor surrounded by at least a portion of the shaft; and
an ultrasound transducer electrically connected to the conductor.

25 35. The catheter of Claim 29 further comprising a control within the shaft.

36. The catheter of Claim 1 wherein the non-conductive braid comprises liquid crystal polymer material.

37. The catheter of Claim 10 wherein the non-conductive insert comprises liquid crystal polymer material.

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